October 26, 1999
R-1150-1999-GVM-244

Mr. Dennis L. McLerran
Puget Sound Clean Air Agency
110 Union Street, Suite 500
Seattle, WA 98101

Dear Mr. McLerran:

Re: Boeing Renton WA, Site Identification # 13125

Subject: Aerospace NESHAP Semiannual Report, March 1, 1999 through August 31, 1999.

The purpose of this letter is to notify the Puget Sound Clean Air Agency of the compliance status of Boeing Commercial Airplane Group's facility in Renton Washington with the semiannual reporting requirements of the National Emission Standards for Aerospace Manufacturing and Rework Facilities (Aerospace NESHAP). This notification is required per 40 CFR 63.753(b) - (e) and covers the March 1, 1999 to August 31, 1999 reporting period.

If you have any questions, please contact Guy Moellendorf at 425-234-4485, or me as shown below

Very truly yours,

L. M. Babich, III
Manager, Environmental Affairs
Single Aisle Airplane Programs
R-1150, MC 63-41
(425) 237-1314

Applicability Exceptions

This facility conducts operations subject to 40 CFR 63, Subpart GG, with the exception of the following activities for the subject time period.

- This facility did not, and does not, use enclosed spray gun cleaners.
- This facility did not, and does not use organic HAP control devices when applying primers and topcoats.
- This facility did not, and does not, utilize averaging for uncontrolled primers and topcoats to meet specified HAP and VOC content limits.
- This facility did not depaint more than 6 completed aircraft in a calendar year since September 1, 1998.
- This facility did not, and does not, perform any chemical milling and maskant operations.

Required Reports

The following information is required in this semiannual report. The subject and regulatory citation are shown.

1. Cleaning Operations Reporting Requirements [40 CFR 63.753 (b)]

1.1 Any instance where a noncompliant cleaning solvent is used for a non-exempt hand-wipe cleaning operation. [40 CFR 63.753 (b)(1)]

- No occurrences *where a noncompliant cleaning solvent is used for a non-exempt hand-wipe cleaning operation* noncompliance to report

1.2 A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 63.744(b)(1). [63.753(b)(1)(ii)]

- *The following solvents were used for the first time during the reporting period:*

Product Name	***Manufacturer***	***Boeing MSDS #***	***Status***
Lineum BA	*Petroferm Inc*	*103882*	*PPc=33.4*
HFE-71D7	*3M*	*104735*	*PPc=42.5*
Lacolene	*Ashland Chemical*	*18535*	*PPc=31.5*
Shopmaster RTU	*Buckeye Intl.*	*86951*	*Aqueous*
Tolu-Sol W HT	*Chem Central*	*101250*	*PPc=41.0*
SATWipes SAT-8425 BMS11-7	*Contec Inc*	*97770*	*PPc=29.8*
Anhydrol Special 190 proof PM-4081	*Chem Central*	*93454*	*PPc=39.5*
Enviro-Tech 1677 aerosol	*Tech Spray Inc.*	*90392*	*PPc=13.1*

1.3 Any instance where a noncompliant spray gun cleaning method was used. [63.753(b)(1)(iii)]

- No occurrences of noncompliant spray gun cleaning methods to report.

2. Primer and Topcoat Operations Reporting Requirements [40 CFR 63.753 (c)]

2.1 For primer and topcoats where compliance is not being achieved through the use of averaging or a control device, each value of H(i) and G(i), as recorded under 63.752(c)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in 63.745(c). [40 CFR 63.753(c)(1)(i)]

- No occurrences of the use of primer/topcoats that exceed specified organic HAP or VOC content limits to report.

2.2 All times when applying inorganic HAP-containing materials that a primer or topcoat application operation was not immediately shut down when the pressure drop across a dry particulate filter or HEPA filter system, or the water flow rate through a waterwash system, as appropriate, was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures [40 CFR 63.753(c)(1)(vi)]

- One instance of a primer application operation not immediately shut down when pressure drop exceeded the specified operating range. See item 4.1 in Compliance Exceptions.

3. Other Non-compliance.

Two instances to report. See items 4.2 and 4.3 in Compliance Exceptions.

4. Compliance Exceptions

4.1 Failed to shutdown spray booth when pressure drop below minimum, 4-86 Bldg. Spray booth PB2, MSS# PB0062, June 1,2, 1999, 2rd shift.

Regulatory Requirement: 63.753(c)(1)(vi) *"All times when a primer or topcoat application operation was not immediately shut down when the pressure drop across a dry particulate filter... was outside the limit(s) specified by the filter or booth manufacturer or in locally prepared operating procedures."*

Finding: On two shifts readings taken by operator TMS were below minimum, 4-86 Bldg. Spray booth PB2, mss# PB0062, second shifts June 1,2, 1999.

1. This booth has four filter systems operating in parallel with a pressure drop gage for each system. The four gages are designated 1of4, 2of4, 3of4 and 4of4. Only on gage 4of4 were the readings recorded as below minimum. Readings for the other 3 gages were in range on each shift. Operator T.M.S. read all 4 gages. This problem occurred on the first and second day of her assignment as a painter. Shortly afterwards, she left the company before the problem was discovered upon checking the logsheet after the end-of-the month, July 14, 1999. Since then, we have been unable to locate her for input on what happened. Hence, a discussion of possible causes is necessary.
2. For gage 4of4, readings for shifts before & after the readings were in range.
3. After discovery of the problem July 14, 1999, the filter condition was checked by confined space entry July 15, 1999, and all filters were found to be properly fitted and in place. The filters are in the sidewalls and well below the floor grates, hence are not in a place where a

part might create a hole in the filters. Upon inspection, there were no holes or gaps in the filters.

4. The physical design of this large spray booth is that it has four separate filters that operate in parallel. Air flow is reduced by using dampers to throttle down the air flow. Possibly a damper stuck, not in the full open position, but a later check did not find the damper to be sticking. If a stuck damper had occurred, the filter particulate capture capability would have continued, because the dampers only function to reduce the air flow by partially closing. As the damper becomes more closed, air flow is reduced and the pressure drop across across the filter would decrease.
5. There is one switch that changes the fan speed to high (spray mode, 100% vent to atmosphere), low (recirculate, 10% vent to atmosphere) and off. So all fans and dampers get the same mode signal and the operator has no opportunity to manually adjust air flow for the individual filter systems.
6. The gage is a dial gage, having marks that must be multiplied by two to be properly read. A gage reading tool to make the conversion is provided and was posted next to the gage at the time of reading. If the low readings recorded by the operator were multiplied by two, the readings would be in range and would be consistent with the readings recorded on prior and later shifts.
7. Our conclusion: The operator misread the gage and failed to recognize that the values were out of the acceptable range. There was nothing wrong with the spray booth equipment – it was in good working order.

Alternate version:

i) Could have been
   (1) Missing filters. Checked, OK.
   (2) Slowed fan. Checked ok.
   (3) Operator error. Unable to meet with the operator.
      (a) Before & after readings OK
      (b) New operaor
      (c) Gage marks must be multiplied by two. May have erred.
   (4) Conclusion is operator probably misread . Trying to track her down.

Corrective Actions Taken:

1. Upon discovery, the shop held a crew meeting and reviewed proper pressure drop recording procedures, seriousness of the assignment and how to properly respond to out-of-range readings.
2. The shop agreed to emphasize the pressure drop recording process in new employee orientation.
3. The supervisors and leads have been directed to check each logsheet record that readings are in range, each shift.
4. Facilities staff verified the gages, mode switch, air flow dampers and dust collection filters were in good working order.
5. Since then, there have been no repeat occurances.

4.2 Failed to record the pressure drop at dry filter booth PB0036 & PB0037, 4-73, col E7, April 27, 1999, 3rd shift.

Regulatory Requirement: 40 CFR 63.752(d)(1)). Aerospace NESHAP, primer and topcoat application operations – inorganic HAP emissions: *"Each owner or operator complying with 63.745(g) for the control of inorganic HAP emissions from primer and topcoat application operations through the use of a dry particulate filter system ... shall record the pressure drop across the operating system once each shift during which coating operations occur."*

Finding: This spray booth has two side-by-side filter systems, designated PB0036 and PB0037, each having their own logsheet.

On 3rd shift April 27, 1999, the operator failed to record the pressure drop at dry filter booth PB0036, 4-73, col E7. The problem was discovered on the next operating shift, the operator was called at home and he said he had sprayed and had forgotten to take a pressure drop reading. The readings before and after the shift were in range, so we believe the reading would have been in range, had it been recorded.

Corrective Action Taken:

1. Upon discovery, the operator was told he failed to take a required reading on his shift and was told not to make the mistake again.

4.3 Failed to mark logsheet with the acceptable range, Bldg. 4-73, col E7, PB0036, August 31, September 1,2 & 3, 1999.

Regulatory Requirement: 40 CFR 63.752(d)(3). Aerospace NESHAP, primer and topcoat application operations – inorganic HAP emissions: *"This log shall include the acceptable limit(s) of pressure drop... that indicate the booth performance..."*

Finding: This spray booth has two side-by-side filter systems, designated PB0036 and PB0037, each having their own logsheet. A planned Facilities mechanical job to reduce high air flow at this booth was completed on Sunday, August 29, 1999. Monday morning, the first operator to use the booth found the pressure drop below minimum, shutdown the spray booth and called Facilities to repair.

The Facilities engineer authorized to change the pressure drop minimum on the logsheet was called in to determine the appropriate minimum for the logsheet. The logsheet's old minimum was 0.2 inches. The engineer told the operator that the new minimum is 0.1 inches. The engineer recorded on the back of the logsheets that a new lower minimum was being implemented, for the current month of August and on the logsheets for the next month of September (already available at the spray booth). He started to mark the new minimum on the front of the four logsheets. After marking PB0037 for August, the engineer was interrupted, distracted and forgot to mark the new 0.1 minimum on the remaining three logsheets (PB0036 for August, and PB0036 & PB0037 for September), until the problem was discovered Sept. 3, 1999.

The operator recorded pressure drop readings below the minimum posted on the front of PB0036 logsheet (0.2 inches)on each 3rd shift for the 4 days of Aug 31, Sept. 1,2,3, 1999. One day, Aug. 31, 1999, is in this 6-month reporting period.

Corrective Actions Taken:

1. The Facilities engineer was told he failed to mark the operating range on the front of the logsheet and not to make the mistake again.
2. The operator was told it is the value posted on the logsheet, not verbal values given by Facilities staff, that are to be used to operate the booth. He failed to shutdown the spray

operation when his reading was below that posted on the logsheet. He was instructed not to make the mistake again.

To the best of my knowledge, based on reasonable inquiry, the Boeing – Renton facility has been in compliance with the cleaning and primer/topcoat operation applicable requirements of 40 CFR 63 subpart GG, except as noted in the above section, 4, Compliance Exceptions, for the six month period from March 1, 1999 to August 31, 1999.

To the best of my knowledge, based on reasonable inquiry, the Boeing – Renton facility is in compliance with the applicable cleaning operation requirements of 40 CFR 63 subpart GG.

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J. B. Hayhurst, Vice President / General Manager – 737 Program